

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 1-148 and add new claims 149-313.

Claims 1-148 (canceled).

Claim 149 (new): A texture-coated paperboard container, comprising:

- a) a sized paperboard blank having a basis weight suitable for a selected type of food container;
- b) a base coat coating layer applied to a first surface of the paperboard blank, the base coat coating layer comprising a mixture of a polymer latex and a pigment;
- c) a top coat coating layer applied to the base coat coating layer, the top coat coating layer comprising a mixture of an organic polymer latex and a pigment; and
- d) a liquid organic polymeric binder mixture layer including texturizing agents chosen from one or more of microspheres, gases, and glass beads applied to a second surface of the paperboard blank in a pattern having covered areas and open areas which has been heated to expand and cure the liquid texturizing agent/polymeric binder mixture,

wherein, optionally, after heating to expand and cure the liquid texturizing agent/polymeric binder mixture, moisture is introduced into the paperboard blank and

heat and pressure are applied to form a texture-coated container, said container exhibiting on the textured side a static coefficient of friction in excess of about 0.22 to about 2.00 or greater and a kinetic coefficient of friction of about 0.22 to about 1.4.

Claim 150 (new): The container of claim 149 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 151 (new): The container of claim 149 wherein the paperboard blank has a weight in the range of about 60 to about 400 lbs. per 3000 square foot ream and a caliper in the range of about 0.005 to about 0.055 inches.

Claim 152 (new): The container of claim 149 wherein sufficient moisture is introduced into the paperboard blank to produce a moisture content of about 4.0 to about 15.0% by weight.

Claim 153 (new): The container of claim 149 wherein the liquid texturizing agent/polymeric binder mixture includes from about 20 to about 40% by weight of a mineral filler and from about 0.05 to about 0.2% by weight of a rheology modifier.

Claim 154 (new): The container of claim 153 wherein the liquid texturizing agent/polymeric binder mixture includes a colorant.

Claim 155 (new): The container of claim 153 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of polymers of ethylenically unsaturated monomers, copolymers of ethylenically unsaturated monomers, polymers and copolymers of conjugated dienes, saturated and unsaturated polyesters, polycarbonates, polyethers, polyurethanes, epoxies, ureaformaldehydes, and phenolformaldehydes.

Claim 156 (new): The container of claim 155 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of copolymers of ethylenically unsaturated monomers such as copolymers of ethylene and propylene, ethylene and styrene, and polyvinyl acetate, styrene and maleic anhydride, styrene and methyl methacrylate, styrene and ethyl acrylate, styrene and acrylonitrile, methyl methacrylate and ethyl acrylate, and methyl methacrylate and acrylonitrile.

Claim 157 (new): The container of claim 149 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture has a glass transition temperature of about -30 °C to about +30 °C.

Claim 158 (new): The container of claim 157 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture has a glass transition temperature of about -10 °C to about +10 °C.

Claim 159 (new): The container of claim 157 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of styrene acrylic polymer, styrene butadiene polymer, and a terpolymer emulsion of vinyl chloride, ethylene, and vinyl acetate having a glass transition temperature of about 0 °C to about 3 °C.

Claim 160 (new): A texture-coated container comprising a paperboard blank prepared from the paperboard of claim 149 which has been shaped into the form of a container in which the second surface of the container has a screen printed patterned coating of expanded microspheres in a cured polymeric binder, the patterned coating covering from about 10 to about 90% of the second surface of the container.

Claim 161 (new): The texture coated container of claim 160, in which the patterned coating covers about 30 to about 50% of the second surface of the container.

Claim 162 (new): A texture-coated paper container, comprising:

- a) a paper blank having a basis weight suitable for a selected type of food container;
- b) a base coat coating layer applied to a first surface of the paper blank, the base coat coating layer comprising a mixture of polymer latex and a pigment;

c) a top coat coating layer applied to the base coat coating layer, the top coat coating layer comprising a mixture of an organic polymer latex and a pigment; and

d) a liquid polymeric binder mixture including texturizing agents chosen from one or more of microspheres, gases, and glass beads applied to a second surface of the paper blank in a pattern having covered areas and open areas which has been heated to expand and cure the liquid texturizing agent/polymeric binder mixture,

wherein the paper blank has a weight in the range of about 8 to about 40 pounds per ream and a caliper in the range of about 0.001 to about 0.005 inches, and wherein after heating to expand and cure the liquid texturizing agent/polymeric binder mixture, moisture is optionally introduced into the paper blank and heat and pressure are applied to form a texture-coated container.

Claim 163 (new): The container of claim 162 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 164 (new): The container of claim 162 wherein the liquid texturizing agent/polymeric binder mixture includes from about 20 to about 40% by weight of a mineral filler and from about 0.05 to about 0.2% by weight of a rheology modifier.

Claim 165 (new): The container of claim 164 wherein the liquid texturizing agent/polymeric binder mixture includes a colorant.

Claim 166 (new): The container of claim 164 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of polymers of ethylenically unsaturated monomers, copolymers of ethylenically unsaturated monomers, polymers and copolymers of conjugated dienes, saturated and unsaturated polyesters, polycarbonates, polyethers, polyurethanes, epoxies, ureaformaldehydes, and phenolformaldehydes.

Claim 167 (new): The container of claim 166 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of copolymers of ethylenically unsaturated monomers such as copolymers of ethylene and propylene, ethylene and styrene, and polyvinyl acetate, styrene and maleic anhydride, styrene and methyl methacrylate, styrene and ethyl acrylate, styrene and acrylonitrile, methyl methacrylate and ethyl acrylate, and methyl methacrylate and acrylonitrile.

Claim 168 (new): A textured hamburger wrap formed from the printed, texturized paper of claim 162 wherein the sized paper blank has a basis weight of about 10 to about 60.

Claim 169 (new): The container of claim 162 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture has a glass transition temperature of about -30 °C to about +30 °C.

Claim 170 (new): The container of claim 169 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture has a glass transition temperature of about -10 °C to about +10 °C.

Claim 171 (new): The container of claim 169 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of styrene acrylic polymer, styrene butadiene polymer, and a terpolymer emulsion of vinyl chloride, ethylene, and vinyl acetate having a glass transition temperature of about 0 °C to about 3 °C.

Claim 172 (new): A coated paperboard characterized by one or more of grease, oil, and cut resistance, improved bulk, insulating, and tactile properties useful as a base stock for forming substantially rigid food containers, comprising:

- a) a paperboard blank having a basis weight suitable for a selected type of food container;
- b) optionally a base coat coating layer applied to a first surface of the paperboard blank, the base coat coating layer comprising a mixture of a polymer binder and optionally a pigment;
- c) optionally a top coat coating layer applied to the base coat coating layer, the top coat coating layer comprising a mixture of an organic polymer binder and optionally a pigment; and

d) a liquid organic polymeric binder mixture layer including insulating agents chosen from one or more of microspheres, gases, and glass beads applied to a second surface of the paperboard blank in a pattern having covered areas and open areas which has been heated to expand and cure the liquid insulating agent/polymeric binder mixture.

Claim 173 (new): The coated paperboard of claim 172 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 174 (new): The coated paperboard of claim 172 wherein the base coat coating layer and the pigment mixture have substantially the same composition as the composition of the top coat coating layer polymer binder and pigment mixture.

Claim 175 (new): The container of claim 172 wherein the polymeric binder of the liquid insulating agent/polymeric binder mixture is chosen from one or more of copolymers of ethylenically unsaturated monomers such as copolymers of ethylene and propylene, ethylene and styrene, and polyvinyl acetate, styrene and maleic anhydride, styrene and methyl methacrylate, styrene and ethyl acrylate, styrene and acrylonitrile, methyl methacrylate and ethyl acrylate, and methyl methacrylate and acrylonitrile.

Claim 176 (new): The coated paperboard of claim 172 wherein the gases are chosen from one or more of air, nitrogen, helium, and C<sub>1</sub> to C<sub>7</sub> aliphatic hydrocarbons.



Claim 177 (new): The coated paperboard of claim 172 formed from flat paperboard blanks having a first and a second surface by printing on one such surface of the paperboard with an insulating coating covering at least ten percent of such surface, wherein the insulating coating comprises a liquid polymeric binder mixed with an insulating agent chosen from at least one of microspheres, gases, and glass beads.

Claim 178 (new): The coated paperboard of claim 177 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 179 (new): A coated paperboard container, comprising:

- a) a paperboard blank having a basis weight suitable for a selected type of food container;
- b) optionally a base coat coating layer applied to a first surface of the paperboard blank, the base coat coating layer comprising a mixture of a polymer binder and optionally a pigment;
- c) optionally a top coat coating layer applied to the base coat coating layer, the top coat coating layer comprising a mixture of an organic polymer binder and optionally a pigment; and
- d) a liquid organic polymeric binder mixture layer including insulating agents chosen from one or more of microspheres, gases, and glass beads applied to a

second surface of the blank in a pattern having covered areas and open areas which has been heated to expand and cure the liquid texturizing polymeric binder mixture, wherein, optionally, after heating to expand and cure the insulating agent/polymeric binder mixture, moisture is introduced into the blank and heat and pressure are applied to form a texture-coated container.

Claim 180 (new): The coated paperboard container of claim 179 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 181 (new): The coated paperboard container of claim 179 in the form of an insulated cup.

Claim 182 (new): The insulated cup of claim 181 having a first and a second surface which when filled with a liquid at 190 °F exhibits thermal insulative properties such that at room temperature and one atmosphere pressure the textured part of the outer surface does not reach a temperature of about 145 °F in less than forty seconds.

Claim 183 (new): The coated paperboard container of claim 179 in the form of an insulated container.

Claim 184 (new): The coated paperboard container of claim 179 in the form of an insulated plate.

Claim 185 (new): The coated paperboard container of claim 184 in the form of an insulated compartmented plate.

Claim 186 (new): The coated paperboard container of claim 179 in the form of an insulated bowl.

Claim 187 (new): The coated paperboard container of claim 179 in the form of an insulated canister.

Claim 188 (new): The coated paperboard container of claim 179 in the form of an insulated, rectangular take out container.

Claim 189 (new): The coated paperboard container of claim 179 in the form of an insulated hamburger claim shell.

Claim 190 (new): The coated paperboard container of claim 179 in the form of an insulated French fry sleeve.

Claim 191 (new): The coated paperboard container of claim 179 in the form of an insulated food bucket.

Claim 192 (new): The coated paperboard container of claim 179 further comprising a microwave susceptor layer.

Claim 193 (new): The coated paperboard container of claim 192 in the form of a food container.

Claim 194 (new): A method of making a texture-coated container comprising:

- a) providing a paperboard blank with first and second surfaces;
- b) applying a protective coating to the first surface of the paperboard blank;
- c) applying a microsphere/polymeric binder mixture containing about 1 to about 30% by weight expandable microspheres to the second surface in a pattern having covered areas and open areas in which about 10 to about 95% of the surface area of the second surface of the paperboard blank is covered; the covered and open areas being controlled to produce containers having a coefficient of static friction on the textured side of about 0.2 to about 2.0 and a kinetic coefficient of friction of about 0.26 to about 1.5;
- d) heating to expand and cure the second surface coating;
- e) introducing moisture into the paperboard blank to bring the level of moisture to about 9 to about 11 percent by weight; and
- f) applying heat and pressure to the first surface and second surface coated and moistened paperboard blank to make a texture-coated container.

Claim 195 (new): A method of making a coated container having enhanced bulk and insulation properties comprising:

- a) providing a paperboard blank with two surfaces;
- b) optionally applying a protective coating to a first surface of the paperboard blank;
- c) printing a liquid polymeric binder mixture including insulation agents chosen from one or more of microspheres, gases, and glass beads on a second surface of the paperboard blank in a pattern having covered areas and open areas;
- d) heating to expand and cure the textured surface coating;
- e) optionally introducing moisture into the paperboard blank; and
- f) optionally applying heat and pressure to the paperboard blank to make a coated container having enhanced bulk and insulating properties.

Claim 196 (new): The method of claim 195 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 197 (new): The method of claim 195 wherein the paperboard blank has a weight in the range of about 10 to about 400 lbs. per 3000 square foot ream, a caliper in the range of about 0.001 to about 0.055 inches, and the protective coating is applied to the first surface of the blank and heat and pressure are optionally applied to the

paperboard blank to make a coated container having enhanced insulation and bulk properties.

Claim 198 (new): The method of claim 197 wherein the paperboard blank has a weight in the range of about 60 to about 400 lbs. per 3000 square foot ream and a caliper in the range of about 0.008 to about 0.050 inches.

Claim 199 (new): The method of claim 197 wherein the protective coating comprises successive layers, first of sizing, second of clay coating, and third of nitrocellulose lacquer.

Claim 200 (new): The method of claim 195 wherein from about 10% to about 90% of the surface area of the insulation coated surface of the paperboard blank is coated with the liquid insulation agent/polymeric binder mixture.

Claim 201 (new): The method of claim 195 wherein at least about 5 pounds of the liquid insulation agent/polymeric binder mixture are applied fully per 3000 square foot ream.

Claim 202 (new): The method of claim 201 wherein at least about 5 to about 50 pounds of the liquid insulation agent/polymeric binder mixture are applied per fully coated 3000 square foot ream.

Claim 203 (new): A method of making a texture-coated container comprising:

- a) providing a paperboard blank with two surfaces;
- b) optionally applying a protective coating to a first surface of the blank;
- c) printing a liquid polymeric binder mixture including texturizing agents chosen from one or more of microspheres, gases, and glass beads on a second surface of the paperboard blank in a pattern having covered areas and open areas; the covered and open areas optionally being controlled to produce containers having a static coefficient of friction of about 0.22 to about 2.0 and a kinetic coefficient of friction of about 0.22 to about 1.5;
- d) heating to expand and cure the textured surface coating;
- e) optionally introducing moisture into the paperboard blank, and
- f) optionally applying heat and pressure to the paperboard blank to make a texture-coated container.

Claim 204 (new): The method of claim 203 wherein the glass beads are chosen from at least one of solid glass beads and hollow glass beads.

Claim 205 (new): The method of claim 203 wherein the paperboard blank has a weight in the range of about 10 to about 400 lbs. per 3000 square foot ream and a caliper in the range of about 0.001 to about 0.055 inches.

Claim 206 (new): The method of claim 205 wherein the paperboard blank has a weight in the range of about 60 to about 400 lbs. per ream and a caliper in the range of about 0.008 to about 0.050 inches.

Claim 207 (new): The method of claim 203 wherein sufficient moisture is introduced into the paperboard blank to produce a moisture content of about 4.0 to about 15.0% by weight.

Claim 208 (new): The method of claim 207 wherein sufficient moisture is introduced into the paperboard blank to produce a moisture content of about 9.0 to about 11.0% by weight.

Claim 209 (new): The method of claim 203 wherein the moisture is introduced into the blank by applying a moistening/lubricating solution to the bottom of the paperboard blank with a roller.

Claim 210 (new): The method of claim 209 wherein the moistening/lubricating solution contains about 0 to about 39 percent by weight polyethylene wax and ethoxylated surfactant, with the balance being water.



Claim 211 (new): The method of claim 203 wherein the moisture is introduced into the blank by applying a moistening/lubrication solution to the bottom of the paperboard blank with a brush.

Claim 212 (new): The method of claim 203 wherein the moisture is introduced into the blank by applying a moistening/lubrication solution to the bottom of the paperboard blank by spraying.

Claim 213 (new): The method of claim 203 wherein the liquid texturizing agent/polymeric binder mixture comprises from about 1 to about 50% by weight of expandable microspheres.

Claim 214 (new): The method of claim 213 wherein the liquid texturizing agent/polymeric binder mixture comprises from about 10 to about 30% by weight of expandable microspheres.

Claim 215 (new): The method of claim 203 wherein a sufficient amount of the liquid texturizing agent/polymeric binder mixture is applied to produce, after heating, a textured coating with a caliper ranging from about 0.001 to about 0.015 inches.

Claim 216 (new): The method of claim 203 wherein a sufficient amount of the liquid texturizing agent/polymeric binder mixture is applied to produce, after heating, a textured coating with a caliper ranging from about 0.005 to about 0.010 inches.

Claim 217 (new): The method of claim 203 wherein from about 10% to about 90% of the surface area of the textured surface of the paperboard blank is covered with the liquid texturizing agent/polymeric binder mixture.

Claim 218 (new): The method of claim 217 wherein from about 30% to about 50% of the surface area of the textured surface of the paperboard blank is covered with the liquid texturizing agent/polymeric binder mixture.

Claim 219 (new): The method of claim 218 wherein the texturizing agent is microspheres.

Claim 220 (new): The method of claim 218 wherein the texturizing agent is gases are chosen from one or more of air, nitrogen, helium, and C<sub>1</sub> to C<sub>7</sub> hydrocarbons.

Claim 221 (new): The method of claim 203 wherein the liquid texturizing agent/polymeric binder mixture includes from about 0 to about 50% by weight of a mineral filler and from about 0 to about 0.5% by weight of a rheology modifier.

Claim 222 (new): The method of claim 203 wherein the liquid texturizing agent/polymeric binder mixture includes from about 20 to about 40% by weight of a mineral filler and from about 0.05 to about 0.2% by weight of a rheology modifier.

Claim 223 (new): The method of claim 203 wherein the liquid texturizing agent/polymeric binder mixture includes a colorant.

Claim 224 (new): The method of claim 203 wherein after the liquid texturizing agent/polymeric binder mixture is applied, the paperboard blank is heated to about 200 °F to about 500 °F for a period sufficient to expand the microspheres and cure the polymeric binder.

Claim 225 (new): The method of claim 224 wherein after the liquid texturizing agent/polymeric binder mixture is applied, the paperboard blank is heated to about 225 °F to about 300 °F for a period sufficient to expand the microspheres and cure the polymeric binder.

Claim 226 (new): The method of claim 225 wherein the paperboard blank is heated to about 200°F to about 400°F in the final step.

Claim 227 (new): The method of claim 203 wherein pressure of about 300 to about 1500 psi is applied to the paperboard blank in the final step.

Claim 228 (new): The method of claim 203 wherein the moisture is introduced into the paperboard blank after applying coatings to the printed surface of the paperboard blank.

Claim 229 (new): The method of claim 203 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of polymers of ethylenically unsaturated monomers, copolymers of ethylenically unsaturated monomers, polymers and copolymers of conjugated dienes, saturated and unsaturated polyesters, polycarbonates, polyethers, polyurethanes, epoxies, ureaformaldehydes, and phenolformaldehydes.

Claim 230 (new): The method of claim 229 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of copolymers of ethylene and propylene, ethylene and styrene, and polyvinyl acetate, styrene and maleic anhydride, styrene and methyl methacrylate, styrene and ethyl acrylate, styrene and acrylonitrile, methyl methacrylate and ethyl acrylate, methyl methacrylate, and acrylonitrile.

Claim 231 (new): The method of claim 229 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is a styrene acrylic derivative or a

terpolymer emulsion of vinyl chloride, ethylene, and vinyl acetate having a glass transition temperature of about 0 °C to about 3 °C.

Claim 232 (new): The method of claim 202 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of polyethylene, polypropylene, polybutenes, polystyrene, poly ( $\alpha$ -methyl styrene), polyvinyl chloride, polyvinyl acetate, polymethyl methacrylate, polyethyl acrylate, and polyacrylonitrile.

Claim 233 (new): The method of claim 202 wherein the polymeric binder of the liquid texturizing agent/polymeric binder mixture is chosen from one or more of styrene acrylic polymer, styrene butadiene polymer, and a terpolymer emulsion of vinyl chloride, ethylene, and vinyl acetate having a glass transition temperature of about 0 °C to about 3 °C.

Claim 234 (new): A cellulosic multi-ply paperboard, comprising predominately cellulosic fibers and microspheres interspersed with the cellulosic fibers, wherein at least about 57% of the microspheres are retained within the paperboard.

Claim 235 (new): The paperboard of claim 234 wherein the microspheres comprise expanded and/or unexpanded microspheres.

Claim 236 (new): The paperboard of claim 235 wherein the microspheres have a mean diameter of about 0.5 to about 60 microns in the unexpanded state and have a maximum expansion of about 4 to about 9 times the mean diameter.

Claim 237 (new): The paperboard of claim 234 wherein the microspheres are present in a proportion of about 10 lbs. to about 400 lbs. per ton of fiber.

Claim 238 (new): The paperboard of claim 234 further comprising a retention aid.

Claim 239 (new): The paperboard of claim 238 wherein the retention aid is diallyldimethyl ammonium chloride polymer having a molecular weight in excess of about ninety thousand.

Claim 240 (new): The paperboard of claim 238 wherein the retention aid is polyethylenimine having a molecular weight of about forty thousand to about two million.

Claim 241 (new): The paperboard of claim 240 wherein the polyethylenimine has a molecular weight of about five hundred thousand to about two million.

Claim 242 (new): The paperboard of claim 238 wherein the retention aid is chosen from one or more of polyacrylamides, acrylamide-acrylate polymers, and

cationic acrylamide copolymers having a molecular weight of about one hundred thousand to about thirty million.

Claim 243 (new): The paperboard of claim 242 wherein the retention aid has a molecular weight of about ten to about twenty million.

Claim 244 (new): The paperboard of claim 238 wherein the retention aid is a micro particle colloid which combines the microspheres and the cellulosic fibers prior to web formation.

Claim 245 (new): The paperboard of claim 244 wherein the micro particle colloid is chosen from one or more of silica, bentonite clay, alumina, talc, calcium carbonate, zinc sulfide, titanium dioxide, and an organic pigment.

Claim 246 (new): The paperboard of claim 238 wherein the retention aid is chosen from one or more of an anionic polymer, an acrylamide/acrylate polymer in a hydrocarbon solvent and water, a cationic polyacrylamide, a bentonite clay, and a polydadmac resin.

Claim 247 (new): The paperboard of claim 234 wherein the microspheres comprise continuously or discontinuously coated expanded or unexpanded microspheres.

Claim 248 (new): The paperboard of claim 247 wherein the expanded or unexpanded microspheres are coated with an inorganic pigment or a retention aid chosen from one or more of coagulation agents, flocculation agents, and entrapment agents.

Claim 249 (new): The paperboard of claim 248 wherein the microspheres are coated with an inorganic pigment chosen from one or more of bentonite clay, kaolin clay, clay, talc, barium sulfate, alumina, silica, titanium dioxide, zinc oxide cotton, cellulosic fiber, graphite, carbon black, and colloidal silica.

Claim 250 (new): The paperboard of claim 248 wherein the microspheres are coated with a retention aid chosen from one or more of polyacrylamides, poly (acrylamide)-co-acrylic acid, poly (acrylamide)-co-diallyldimethyl ammonium chloride, poly (acrylamide)-co-acryloyloxyethyl trimethylammonium chloride, starch, cationized starch, anionic starch, carboxymethylcellulose, anionic gums, polyethylenimine, poly (diallyldimethylammonium chloride) acrylamide acrylate polymers, and cationic acrylamide copolymers.

Claim 251 (new): The paperboard of claim 234 wherein the microspheres comprise a mixture of HBA fiber and expanded or unexpanded microspheres.



Claim 252 (new): The paperboard of claim 234 wherein the microspheres comprise a mixture of anfractuous cellulosic fiber and expanded or unexpanded microspheres.

Claim 253 (new): The paperboard of claim 234 wherein the fiber weight is at least about 60 lbs. per 3000 square foot ream.

Claim 254 (new): An article of manufacture made from the paperboard of claim 253.

Claim 255 (new): The article of manufacture of claim 254 in the form of a cup.

Claim 255 (new): The article of manufacture of claim 254 in the form of a plate.

Claim 257 (new): The article of manufacture of claim 255 in the form of a compartmented plate.

Claim 258 (new): The article of manufacture of claim 254 in the form of a bowl.

Claim 259 (new): The article of manufacture of claim 254 in the form of a canister.

Claim 260 (new): The article of manufacture of claim 254 in the form of a rectangular take-out canister.

Claim 261 (new): The article of manufacture of claim 254 in the form of a hamburger clam shell.

Claim 262 (new): The article of manufacture of claim 254 in the form of a French fry sleeve.

Claim 263 (new): The article of manufacture of claim 254 in the form of a food bucket.

Claim 264 (new): The paperboard of claim 234 wherein one or both sides of the paperboard are coated with a chemical composition chosen from one or more of polyolefin, nitrocellulose, methyl cellulose, carboxy methyl cellulose, ethylvinyl acetate copolymer, styrene butadiene copolymer, vinyl acetate copolymer, vinyl acrylic copolymer, and styrene acrylic copolymer.

Claim 265 (new): An article of manufacture made from the paperboard of claim 264.

Claim 266 (new): The article of manufacture of claim 265 in the form of a cup.

Claim 267 (new): The cup of claim 266 having a first and a second surface which, when filled with a liquid at about 190 °F, exhibits thermal insulative properties such that at about room temperature and about one atmosphere pressure the temperature of the outer surface does not reach a temperature of about 140 °F to about 145 °F in less than about thirty seconds.

Claim 268 (new): The cup of claim 267 wherein one or both surfaces of the cup are coated with high density polyethylene.

Claim 269 (new): The article of manufacture of claim 265 in the form of a carton.

Claim 270 (new): The article of manufacture of claim 265 in the form of a folding paper box.

Claim 271 (new): The article of manufacture of claim 265 in the form of a plate.

Claim 272 (new): The article of manufacture of claim 271 in the form of a compartmented plate.

Claim 273 (new): The article of manufacture of claim 265 in the form of a bowl.

Claim 274 (new): The article of manufacture of claim 265 in the form of a canister.

Claim 275 (new): The article of manufacture of claim 274 in the form of a rectangular take-out canister.

Claim 276 (new): The article of manufacture of claim 265 in the form of a hamburger clam shell.

Claim 277 (new): The article of manufacture of claim 265 in the form of a French fry sleeve.

Claim 278 (new): The article of manufacture of claim 265 in the form of a food bucket.

Claim 279 (new): The paperboard of claim 234 wherein the paperboard is coated on one or both sides with a wax having melting point of about 130 °F to about 150 °F.

Claim 280 (new): An article of manufacture made from the paperboard of claim 279.

Claim 281 (new): The article of manufacture of claim 280 in the form of a cup.

Claim 282 (new): The paperboard of claim 234 wherein the paperboard is coated on one or both sides with a grease resistant polymer including the fluorine moiety or is coated on one or both sides with a coating resistant to moisture.

Claim 283 (new): An article of manufacture made from the paperboard of claim 282.

Claim 284 (new): The article of manufacture of claim 283 in the form of a cup having a first and a second surface which, when filled with a liquid at 190°F, exhibits thermal insulative properties such that at about room temperature and about one atmosphere pressure the temperature of the outer surface does not reach a temperature of about 140°F to about 145 °F in less than thirty seconds.

Claim 285 (new): The article of manufacture of claim 283 in the form of a French fry sleeve.

Claim 286 (new): The paperboard of claim 234 wherein the paperboard is coated with a binder and an inorganic or organic pigment.

Claim 287 (new): An article of manufacture made from the paperboard of claim 286.

Claim 288 (new): The article of manufacture of claim 287 in the form of a carton.

Claim 289 (new): The article of manufacture of claim 287 in the form of a folding paper box.

Claim 290 (new): The article of manufacture of claim 287 in the form of a plate.

Claim 291 (new): The plate of claim 290 in the form of a compartmented plate.

Claim 292 (new): The paperboard of claim 286 wherein the binder is chosen from one or more of aliphatic acrylate acrylonitrile styrene copolymer, n-butyl acrylate acrylonitrile styrene copolymer, n-amyl acrylate acrylonitrile styrene copolymer, n-propyl acrylate acrylonitrile styrene copolymer, n-ethyl acrylate acrylonitrile styrene copolymer, aliphatic acrylate styrene copolymer, n-butyl acrylate styrene copolymer, n-amyl acrylate styrene copolymer, n-propyl acrylate styrene copolymer, n-ethyl acrylate styrene copolymer, cationic starch, anionic starch, amphoteric starch, starch latex copolymers, animal glue, gelatin, methyl cellulose, carboxymethylcellulose, polyvinyl alcohol, ethylene-vinyl acetate copolymer, vinyl acetate-acrylic copolymer, styrene-butadiene copolymer, ethylene-vinyl chloride copolymer, vinyl acetate polymer, vinyl

acetate-ethylene copolymer, acrylic copolymer, styrene-acrylic copolymer, stearylated melamine, and hydrophilic epoxy ester.

Claim 293 (new): The paperboard of claim 286 wherein the pigment is chosen from one or more of kaolin clay, clay, chalk, barite, silica, talc, bentonite, glass powder, alumina, titanium dioxide, graphite, carbon black, zinc sulfide, alumina silica, and calcium carbonate.

Claim 294 (new): The paperboard of claim 293 wherein the pigment is kaolin clay.

Claim 295 (new): The paperboard of claim 234 wherein the microspheres are interspersed in a controlled distribution throughout the thickness of said paperboard.

Claim 296 (new): The paperboard of claim 234 wherein at least about 20 percent of the microspheres are distributed in the central layer of the paperboard.

Claim 297 (new): The paperboard of claim 234 wherein not more than about 75 percent of the microspheres are distributed on the periphery of the paperboard.

Claim 298 (new): The paperboard of claim 234 wherein no periphery of the paperboard has more than about twice the percent of microspheres distributed in the central layer of the paperboard.

Claim 299 (new): The paperboard of claim 234 wherein the cellulose fiber is replaced in whole or in part with a synthetic fiber.

Claim 300 (new): The paperboard of claim 296 wherein the synthetic fiber is chosen from one or more of polyolefins, polyethylenes, polypropylenes, and polyesters.

Claim 301 (new): A cup formed from the paperboard of claim 234.

Claim 302 (new): A plate formed from the paperboard of claim 234.

Claim 303 (new): A bowl formed from the paperboard of claim 234.

Claim 304 (new): A canister formed from the paperboard of claim 234.

Claim 305 (new): A rectangular take-out container formed from the paperboard of claim 234.



Claim 306 (new): A hamburger clam shell formed from the paperboard of claim 234.

Claim 307 (new): A French fry sleeve formed from the paperboard of claim 234.

Claim 308 (new): A food bucket container formed from the paperboard of claim 234.

Claim 309 (new): The paperboard of claim 234 wherein the microspheres are retained within all layers of the paperboard.

Claim 310 (new): The paperboard of claim 234 wherein at least about 60% of the microspheres are retained within the paperboard.

Claim 311 (new): The paperboard of claim 310 wherein at least about 70% of the microspheres are retained within the paperboard.

Claim 312 (new): The paperboard of claim 311 wherein at least about 80% of the microspheres are retained within the paperboard.

Claim 313 (new): The paperboard of claim 312 wherein at least about 90% of the microspheres are retained within the paperboard.